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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,956	03/12/2001	Dimitris K. Agrafiotis	1503.0200006	7862

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EXAMINER	
BRODA, SAMUEL	

ART UNIT	PAPER NUMBER
2123	

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/802,956	AGRAFIOTIS ET AL.	
	Examiner	Art Unit	
	Samuel Broda	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 August 2004*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to Applicants' Response to Office Communication mailed on 16 August 2004 and containing arguments in support of the patentability of pending claims 3-23.

Priority

2. This Application contains a claim for the benefit of priority to U.S. Provisional Application No. 60/030,187 filed 4 November 1996. The provisional application has been reviewed and priority is denied, because the provisional application does not appear to enable the claim invention as required under 35 U.S.C. Section 112, first paragraph. See 35 U.S.C. 119(e)(1).

For example, the provisional application contains no reference to a graphical user interface and the corresponding data display and data manipulation commands.

Claim Rejections - 35 U.S.C. § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.1 Claims 3-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadowski et al, "Assessing Similarity and Diversity of Combinatorial Libraries by Spatial Autocorrelation Functions and Neural Networks," Angew. Chem. Int. Engl., Vol. 34 Issue 23/24 (1995), in view of Rooks, "A Unified Framework for Visual Interactive Simulation," ACM Proceedings of the 1991 Winter Simulation Conference, pp. 1146-1155 (1991).

3.2 Regarding claim 3, Sadowski et al teaches displaying objects representative of user-selected chemical compounds, wherein distances between the objects represent dissimilarity (or "diversity" as stated in Sadowski et al) between the corresponding chemical compounds. See Figs. 1-3 and corresponding text, describing the display of the Kohonen projection xanthene, cubane, and adamantine libraries onto a two dimensional map, based on spatial autocorrelation vectors.

However, the method of Sadowski et al is not illustrated with the remaining graphical user input qualities including user input over display control, as recited in claim 3. Rooks teaches a method of "visual interactive simulation" ("VIS") including the input of graphical user commands.

In particular, Rooks at page 1148 column 2 paragraph 2 through page 1149 column 1 paragraph 1 lists the following four requirements for a complete VIS system:

1. Intervention The analyst must be provided with an effective means of initiating interaction with the model. Modes of interaction included inspection, specification, and visualisation.

2. Inspection The analyst must have access to all model data relevant to the experiments to be performed on the model. The nature of this access (eg. read only, or read/write) is determined by the objectives for analysis of the model.
3. Specification The analyst must be capable of specifying model parameters, in accordance with the objectives for analysis of the model.
4. Visualisation The analyst must be capable of viewing model data in ways which illustrate the model dynamics and relationships of interest. In order to accommodate various modelling objectives, capabilities for visualisation must be diverse, flexible, and parametric.

(Minor formatting added.)

Additionally, Rooks at page 1152 column 1 paragraph 2 through column 2 paragraph 1 describes the benefits of a window-based system, including interactive parametric definition of: 1) display windows and 2) a comprehensive set of display types. Rooks at page 1153 describes the use of "cumulative abstract displays" for presenting scatterplots or "instantaneous abstract displays" for presenting data tables. These abstract displays have the benefit of using "symbols to illustrate and summarise data and relationships." Rooks at page 1151 column 2 paragraph 2.

Regarding claim 3, it would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the computerized method of Sadowski et al to incorporate a graphical user interface permitting data display and manipulation commands,

because the resulting computer system would better illustrate and summarize the similarity and dissimilarity relationships among the data.

3.3 Regarding claim 23, this claim is the computer program product claim corresponding to claim 3 and is rendered obvious using the analysis of claim 3 above.

3.4 Regarding claims 4-23, these claims introduce limitations directed to data display and manipulation commands generic to graphical user interfaces and corresponding to the requirements of Rooks listed above.

Applicant's Arguments

4. Applicants make various arguments at pages 2-5 of the Response that all hinge on the distinction that the previously-applied references deal with similarities among chemical compounds whereas "the presently claimed inventions [sic] looks at dissimilarities of the corresponding compounds and therefore do not find relations, patterns, or similarities amongst data." Response at page 4 paragraph 2.

Examiner's Reply

5. The Examiner respectfully disagrees with this argument for the following reason:

Applicants' argued distinction between "similarities" and "dissimilarities" is not persuasive as it appears to conflict with Applicants' own discussion of the relation between similarities and dissimilarities as appearing in the Specification.

In particular, the Specification at page 12 lines 10-20 ties both definitions to a single concept called "proximity" in which a close proximity indicates similarity and a far proximity indicates dissimilarity. The Specification further states at page 28 lines 5-7 that:

> In an embodiment of the present invention, the selected evaluation properties may be scaled differently to reflect their relative importance in assessing the proximity (i.e., similarity or dissimilarity) between two compounds.

Because Applicants' arguments appear to conflict with terms described in the Specification, these arguments are not considered persuasive.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.

Reference to Wagener et al, "Autocorrelation of Molecular Surface Properties for Modeling Corticosteroid Binding Globulin and Cytosolic Ah Receptor Activity by Neural Networks," J. Am. Chem. Soc., Vol. 117, pp. 7769-7775 (1995), is cited as teaching a 3D-QSAR descriptor using spatial autocorrelation functions and a Kohonen network.

7. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Samuel Broda, whose telephone number is (571) 272-3709. The Examiner can normally be reached on Mondays through Fridays from 8:00 AM – 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kevin Teska, can be reached at (571) 272-3716. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist, whose telephone number is (571) 272-2100.

SAMUEL BRODA, ESQ.
PRIMARY EXAMINER